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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,091	10/09/2003	Jinqiu Chen	237714US0	8109

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EXAMINER

POULOS, SANDRA K

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,091

Applicant(s)

CHEN ET AL.

Examiner

Sandra K. Poulos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it exceeds 150 words. It is also objected to for the reasons given in paragraphs 4-5 below. Correction is required.

See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The disclosure is objected to because of the following informalities: On page 14, "...2.7, 2.8 and 2.8 % by weight" lists 2.8 twice. Pages 2-4 are objected to for the reasons in paragraphs 4-5 below.

Appropriate correction is required.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following titles are suggested: "Latex with reduced 4-phenylcyclohexene and a process of preparing" or "Latex with reduced side products and a process of preparing" or "Latex with reduced odor and a process of preparing" or "Polymerized latex polymer having a gradient regime and a process for preparing the same."

Claim Objections

4. Claims 1, 9, 16, and 24 are objected to because of the following informalities: In claims 9 and 24 "is" should be "are" or should be "at least one component D is". In claims 1 and 16 the recited "obtainable by" is unclear and it is suggested that applicant use "obtained by" in lieu of "obtainable by."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More particularly, in claims 1 and 16 it is unclear if component D is optional or required because the sum of A, B, and C is 100%. It is also unclear what the percentages in A-C are based on because it is recited "% by weight" rather than % by weight of [what it is based on] of component. Examiner has assumed that the claim in A

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is 30-90% by weight of the sum of A, B, and C of at least one ethylenically unsaturated monomer. The specification further suggests that it may be written as "% by weight based on the overall mass of polymerizable reactants" (page 14, line 5). Examiner has also assumed that component D is required and not an optional ingredient.

Furthermore, it is unclear what is meant by "obtainable by reacting." Examiner has assumed that the latex is "obtained by reacting." In addition, it is unclear if D is meant to be "at least one auxiliary or at least one additive or mixtures thereof" or if the auxiliary in D can be the same as the additive and then the mixtures thereof occur only if more than one are present. Examiner has assumed the former interpretation. Also, it is unclear if the latex composition in claim 1 is open or closed, examiner has assumed that the composition is open ended.

In claims 9 and 24 it is unclear what the component in D is, whether "component" refers to the auxiliary or the additive or either the auxiliary or additive. Examiner has assumed that at least one of either the auxiliary or additive is selected from the groups listed.

In claims 14 and 15 it is unclear how component C or D can simultaneously be constant, increasing, and decreasing.

Claims 2-15 and 17-26 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-15 and 26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Diehl et al (US 6,337,359).

It is noted that claims 1-15 and 26 are product-by-process claims and therefore “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Diehl '359 discloses a latex mixture of styrene, butadiene, and acrylic acid to form a styrene-butadiene-acrylic acid copolymer (abstract; col 1). The preferable amounts of the components at 34-70% styrene, 6-10% butadiene, 8% acrylic acid, 0.5-2.5% itaconic acid, and is neutralized by addition of a base (col 3, lines 27-41, 59-65). Other additives that may be used in the latex composition are surfactants, initiators, chelating agents, and chain transfer agents (col 3, lines 18-26, 42-58). The polymerization is carried out from 150-170 °F (about 65.6-76.7 °C). The latex is applied

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to fabric, fibers, or mats (col 2, lines 54; col 3, lines 1-10). The process comprises incrementally adding the monomer mixture to the seed under emulsion polymerization conditions (col 3, lines 37-41; col 4-5, example).

Although Diehl '359 is silent with respect to the process limitations in the present claims as a gradient regime or discontinuous change, it is examiner's position that the latex by Diehl '359 and the current latex structurally identical because both are prepared via emulsion polymerization of the same components. Examiner has assumed that the odorous side-product 4-PHC does not structurally change the final latex, but instead is an unwanted by-product brought about by process conditions. Therefore, regardless of the process given in current claim 1, the actual product that is claimed, the latex, is disclosed by Diehl '359 and is therefore anticipated.

In the event that any differences exist between the presently cited claimed product and Diehl's product because of differences in process steps, it is the examiner's position that bridging such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results.

Allowable Subject Matter

7. Claims 16-25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The process in claims 16-25 has allowable subject matter because the prior art does not disclose a process of making a latex by using a least one discontinuous change when adjusting the particular molar ratios currently given for A and B.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Basset et al (US 3,804,881), Trumbo et al (US 5,756,573), Park et al (US 6,331,598), Turck (US 4,212,785), Oshima et al (US 5,006,593), Zhao et al (US 6,451,899), Wildburg et al (US 6,538,057), Wulff et al (US-2003/0125459), and Xue et al (US-2004/0171728) disclose a latex polymerized by continuously adding monomers to a reaction.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:00-4:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP

Sandra K. Poulos
12/05/05

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